CHARACTERISTICS OF PROFESSIONAL SERVICES MARKETS

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CHARACTERISTICS OF PROFESSIONAL SERVICES MARKETS

AN ANALYSIS & ASSESSMENT

FOR

PRICE WATERHOUSE

OCTOBER 1986

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INTRODUCTION

- IN LATE JUNE 1986 PRICE WATERHOUSE COMMISSIONED INPUT TO CONDUCT A STUDY OF THE PROFESSIONAL SERVICES MARKET-PLACE

- KEY QUESTIONS INCLUDED:
  - ADDRESSABLE MARKET SIZE
  - MARKET GROWTH
  - INDUSTRY CHARACTERISTICS
  - PROJECT SIZES
  - CUSTOM VS. PACKAGE
  - BUYING FACTORS
  - TERMS AND CONDITIONS
  - FIXED PRICE PREMIUM
  - OTHER ITEMS

- TO MEET THE STUDY REQUIREMENT INPUT DEVELOPED A TELE-PHONE QUESTIONNAIRE OF 18 PAGES IN LENGTH COVERING 98 QUERIES AND 123 DATA POINTS. THE QUESTIONNAIRE WAS REVIEWED AND APPROVED BY PRICE WATERHOUSE.

INTRODUCTION (cont'd)

- o "INDUSTRY" SEGMENTS WERE ALSO CHOSEN BASED UPON CHARACTERISTICS KNOWN BY INPUT AND SUGGESTED TO PRICE WATERHOUSE. THE SEGMENTS SELECTED BY PRICE WATERHOUSE WERE:
  - DISCRETE MANUFACTURING
  - PROCESS MANUFACTURING
  - BANKING
  - INSURANCE
  - DISTRIBUTION
  - UTILITIES
  - STATE AND LOCAL GOVERNMENT
  - FEDERAL GOVERNMENT

- o WITHIN EACH SECTOR A QUOTA WAS ASSIGNED OF 15 INTERVIEWS WITH MIS SENIOR MANAGEMENT FOR A TOTAL OF 120 TARGET INTERVIEWS.

INTRODUCTION (cont'd)

- RESPONDENTS WERE TARGETED AT THE LARGEST ORGANIZATIONS, ESSENTIALLY THE 50 LARGEST ENTITIES IN EACH SECTOR. THIS "TOP DOWN" APPROACH WAS SELECTED SINCE PROFESSIONAL SERVICES ACTIVITY (P.S.) IS KNOWN TO BE DISPROPORTIONATELY CONCENTRATED IN LARGE ORGANIZATIONS.

- 138 INTERVIEWS WERE ACCOMPLISHED, 15% OVER THE ESTABLISHED QUOTA OF 120 AS A BY-PRODUCT OF METHOD.

- INCLUDED DIRECTLY IN THE STUDY (BY RESPONDENT STATEMENT) WAS $8.1 BILLION IN MIS EXPENDITURES FOR THE YEAR 1986. THIS EXTRAPOLATES TO $28.8 BILLION IN EXPENDITURES BY ORGANIZATIONS IN THE SAMPLE UNIVERSE OF 451 ORGANIZATIONS. THE $28.8 BILLION FIGURE WILL BE USED AS A BASE THROUGHOUT THIS DOCUMENT UNLESS OTHERWISE STATED.

- AS CAN BE SEEN, THE DATA COVERS VERY LARGE EXPENDITURES. IN THE SAMPLE ARE 28.1% OF THE EXPENDITURES OF THE 451 ORGANIZATION UNIVERSE, A VERY SUBSTANTIAL PROPORTION.

DEPARTMENTAL OVERVIEW

- MIS EXPENDITURES PER DEPARTMENT AVERAGED $68.6 MILLION IN 1986 FOR THE SAMPLE FIRMS WITH THE 90% CONFIDENCE INTERVAL FOR THE GROUP FALLING AT $37.3 MILLION ON THE LOW SIDE AND $99.9 MILLION ON THE HIGH.

- NOTABLE OUTLIERS IN EXPENDITURES WERE THE FEDERAL AND DISCRETE MANUFACTURING SECTORS WHICH AVERAGED $176 MILLION AND $153 MILLION RESPECTIVELY ON THE HIGH SIDE. ON THE LOW SIDE DISTRIBUTION AT $27.4 MILLION AND STATE AND LOCAL GOVERNMENT AT $19.3 MILLION WERE THE LOWEST AVERAGES FOUND. DATA ARE PER ORGANIZATION.

- MEAN EMPLOYMENT WAS 616 PERSONS WITH THE 90% INTERVAL FALLING AT 474 AND 758.

- AVERAGE DP EXPENDITURES PER DP EMPLOYEE WERE $111,346 WHICH IS TYPICAL OF ORGANIZATIONS IN THIS SIZE CATEGORY.

DEPARTMENTAL OVERVIEW (cont'd)

- FEDERAL GOVERNMENT RECORDED THE HIGHEST EXPENDITURES PER DP EMPLOYEE AT $296K REFLECTINING THE WELL-KNOWN RELIANCE ON OUTSIDE SERVICES WHILE STATE AND LOCAL GOVERNMENT EXHIBITED THE LOW OF $57K EXPENDITURES SHOWING THE LOW SALARIES, HIGH PERSONNEL COUNTS AND AGING EQUIPMENT OFTEN FOUND IN THIS SECTOR.

- THIS DATA IS CONSISTENT WITH OTHER STUDIES WHICH INPUT HAS PERFORMED. THIS ALIGNMENT GIVES CONFIDENCE IN SUBSEQUENT FINDINGS.

EXPENDITURE GROWTH

- OVERALL, MIS EXPENDITURES WERE FORECAST TO RISE AT A 9.95% RATE THROUGH 1989 BY RESPONDENTS. THIS CREATES A SERIES AS FOLLOWS:

YEAR	$ B EXPENDITURE
1986	28.8
1987	31.7
1988	34.8
1989	38.3

- WHILE GROWTH IS MODERATE, IT IS ALSO FORECAST TO BE SOMEWHAT STRONGER THAN IN THE RECENT PAST WHEN SIMILAR FORECASTS WERE IN THE 8-9% RANGE.

- BETWEEN 1986 AND 1989 TOTAL EXPENDITURES WILL INCREASE ABOUT 33% OR ABOUT $9.5 BILLION IN THE INTERVAL. BOTH THE BASE AMOUNT AND THE INCREMENT ARE MASSIVE NUMBERS AND IMPLY SIGNIFICANT OPPORTUNITY.

- DURING THE PERIOD A OF TOTAL OF $133.6 BILLION WILL BE SPENT ON MIS/DP BY ORGANIZATIONS IN THE STUDY UNIVERSE.

EXPENDITURES BY SECTOR

SECTOR	% SHARE	86 EXPENDITURE	% AVG. GROWTH	89 EXPENDITURE
D. MFG	35.4	10.2	9.4	13.5
P. MFG.	14.2	4.1	9.2	5.3
FEDERAL	13.5	3.9	12.9	5.6
BANK	12.2	3.5	6.6	4.2
INSURANCE	9.0	2.6	11.5	3.7
UTILITIES	6.3	1.8	5.4	2.1
DISTRIBUTION	5.9	1.7	12.7	2.5
S&L GOV'T	3.5	1.0	13.0	1.4
	100.0	28.8	9.95	38.3

- OBSERVE THAT THERE ARE NO "UPSETS" CAUSED BY GROWTH RATES. FEDERAL WILL SLIGHTLY EXCEED PROCESS MFG. IN 1989 SIZE WHILE DISTRIBUTION'S ABOVE AVERAGE GROWTH WILL CAUSE IT TO EXCEED UTILITY EXPENDITURES BY SOME MARGIN.

- NO SPECTACULAR GROWTH RATES WERE FOUND, BUT IF "GENERIC" GROWTH IS DESIRABLE IN A SEGMENT, THEN THE GOVERNMENT SECTORS, DISTRIBUTION AND INSURANCE WOULD APPEAR TO BE PREFERRED.

EXPENDITURES BY SECTOR (cont'd)

- ON THE SAME BASIS UTILITIES AND BANKING APPEAR MARKEDLY LESS DESIRABLE.

- NOTE THAT THE VAST RELATIVE SHARE IN DISCRETE MANUFACTURING WOULD APPEAR TO MAKE IT DESIRABLE. GROWTH IN MFG. IS LARGER IN DOLLAR TERMS THAN IN THE THREE FASTEST GROWING SECTORS COMBINED. 1986-89 INCREMENTAL EXPENDITURE IN D. MFG. IS $3.3 BILLION AND IN THREE TOP SECTORS IS $2.9 BILLION.

SOFTWARE EXPENDITURES

- RESPONDENTS WERE ASKED TO INDICATE THE PROPORTION OF THEIR EXPENDITURES DEVOTED TO SOFTWARE. THE MEAN PROPORTION WAS 30.8%, INDICATING 1986 EXPENDITURES OF $8.87 BILLION.

- SOFTWARE EXPENDITURES WERE EXPECTED TO GROW SLIGHTLY MORE RAPIDLY THAN OVERALL EXPENDITURES AT 11.1% (V.S. 9.9). THIS INDICATES THAT SOFTWARE EXPENDITURES WILL REACH $12.16 BILLION IN 1989 WHEN THEY WILL ACCOUNT FOR ABOUT 32% OF ALL EXPENDITURES.

- WHILE WE WILL RETURN TO THIS POINT IN GREATER DETAIL, RESPONDENTS INDICATE THAT THEY ARE SPENDING ABOUT $1.14 BILLION IN 1986 ON PROFESSIONAL SERVICES OR AN AVERAGE OF 12.8% OF SOFTWARE EXPENDITURES ON P.S. THIS EQUATES TO ABOUT 3.9% OF THE TOTAL BUDGET.

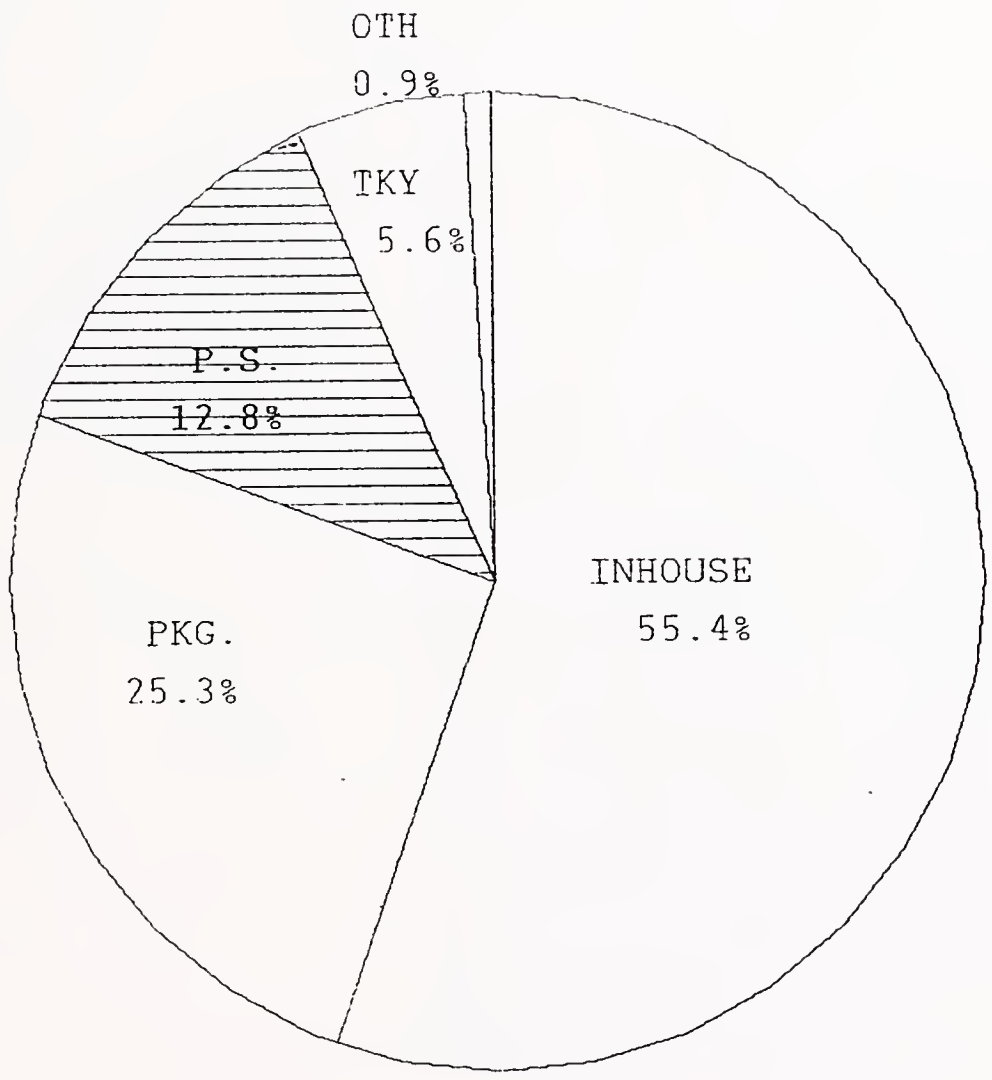
SOFTWARE EXPENDITURES (cont'd)

- SOFTWARE EXPENDITURES WERE BROKEN DOWN INTO A SERIES OF CATEGORIES. THESE WERE:
  - INHOUSE EXPENDITURES
  - PACKAGE EXPENDITURES
  - PROFESSIONAL SERVICE EXPENDITURES
  - TURNKEY SYSTEMS EXPENDITURES
  - "OTHER" SOFTWARE-RELATED EXPENDITURES

- BY OBTAINING CURRENT PROPORTIONS IN THESE CATEGORIES (1986) AND 1989 EXPECTED PROPORTIONS IT IS POSSIBLE TO OBTAIN CURRENT AND FUTURE EXPENDITURES FOR EACH CATEGORY AS WELL AS GROWTH RATES ANTICIPATED.

1986 SOFTWARE SHARES

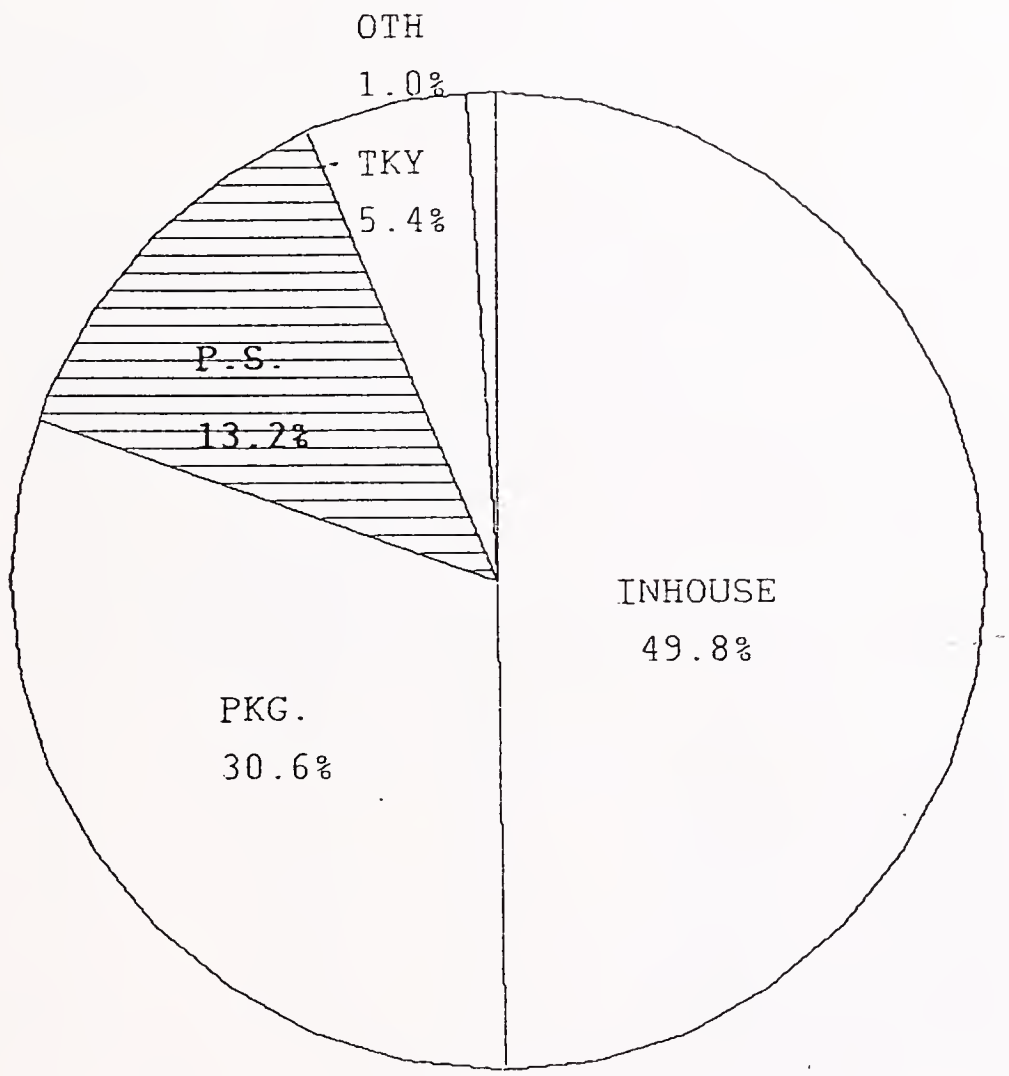
BY EXPENDITURE CATEGORY



TOTAL = $8.87 BILLION

1989 SOFTWARE SHARES

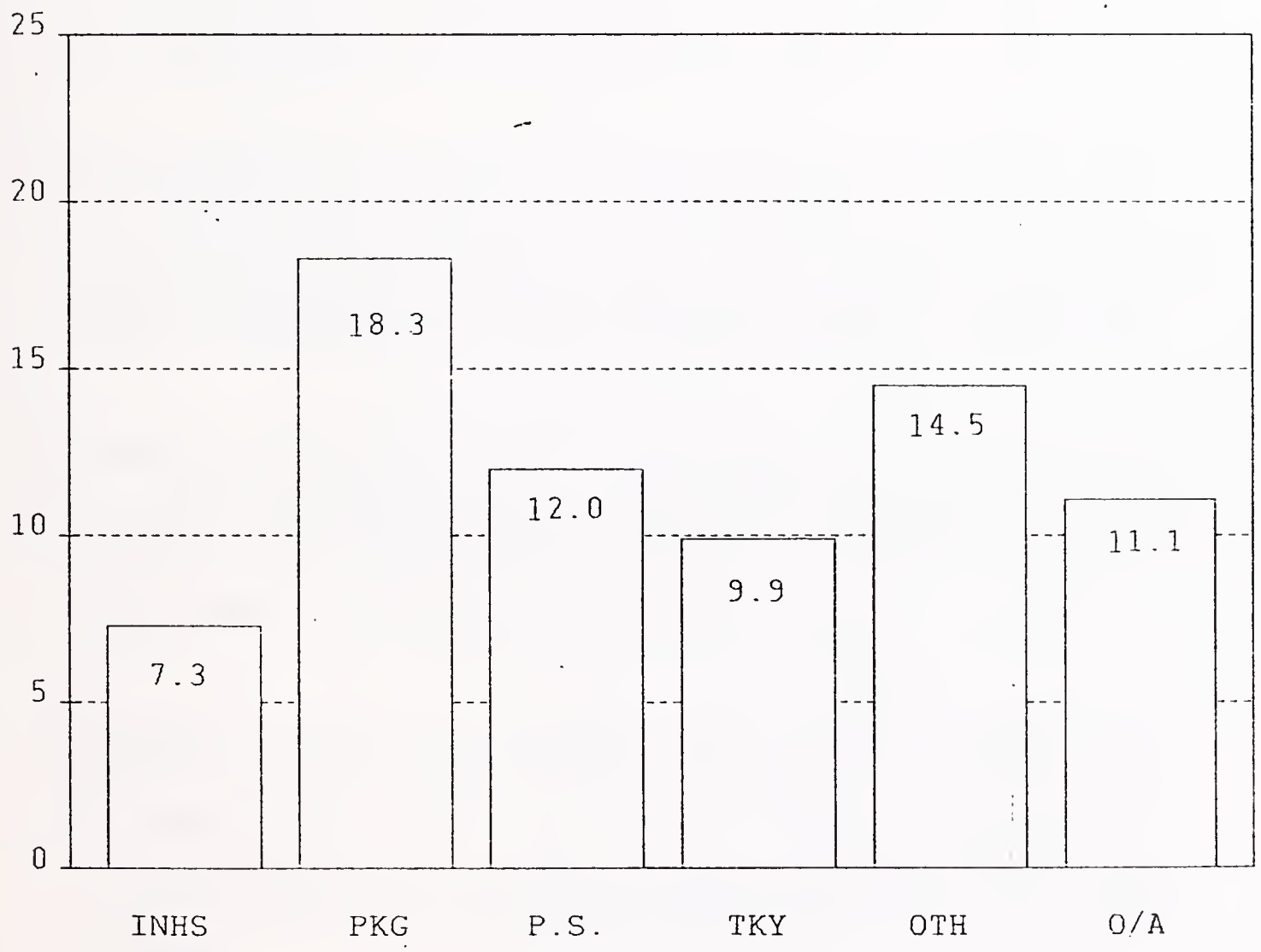
BY EXPENDITURE CATEGORY



TOTAL = $12.16 BILLION

FORECAST GROWTH RATES

BY SOFTWARE ACTIVITY



NOTE: Data are % avg. annual growth

EXPENDITURES

- THE DATA SHOWS THAT INHOUSE DEVELOPMENT WILL DECREASE ITS SHARE OF EXPENDITURES FROM 55.4% IN 1986 TO 49.8% IN 1989. DURING THIS TIME EXPENDITURES WILL GROW FROM $4.9 BILLION TO $6.1 BILLION WHILE LOSING SHARE.

- PACKAGED SOFTWARE WILL MOVE FROM A 25.3% SHARE (ABOUT $2.3 BILLION) TO $3.7 BILLION AND A 30.6% SHARE. IT APPEARS THAT THE MAJOR SHARE SHIFT IS FROM INHOUSE TO PACKAGES.

- PROFESSIONAL SERVICES WILL GROW FROM $1.14 BILLION TO $1.6 BILLION IN THE SAME PERIOD, MAKING A SLIGHT SHARE GAIN FROM 12.8% TO 13.2% OF EXPENDITURES.

- TURNKEY SYSTEMS WILL EXPERIENCE A SMALL SHARE LOSS (POSSIBLY FLAT) FROM 5.6% TO 5.4% WITH EXPENDITURES MOVING FROM $490 MILLION TO $650 MILLION IN THE STUDY UNIVERSE.

EXPENDITURE GROWTH RATES

- ON AN AVERAGE ANNUAL GROWTH RATE BASIS PACKAGED SOFTWARE IS FASTEST GROWING AT 18.3% AA GR.

- THIS IS FOLLOWED BY THE INCIDENTAL "OTHER" CATEGORY AT 14.5%.

- IN THIRD PLACE IS PROFESSIONAL SERVICES AT 12%, VERY SLIGHTLY ABOVE THE AVERAGE FOR ALL SOFTWARE ACTIVITIES.

- SLIGHTLY BELOW AVERAGE GROWTH (AND MODEST REVENUES) WILL BE SEEN IN THE TURNKEY SYSTEMS CATEGORY.

- SLOWEST GROWTH IN EXPENDITURES WILL BE FOUND IN THE INHOUSE ACTIVITIES WITH ONLY 7.3% AAGR, SLOWER THAN OVERALL BUDGET GROWTH. THIS IS A MATERIAL CHANGE FROM FIVE YEARS AGO WHEN INHOUSE DEVELOPMENT WAS GROWING 50-100% FASTER THAN OVERALL BUDGETS.

- WE MAY CONCLUDE THAT FUTURE EXPENDITURES WILL SHIFT MODERATELY BUT PRONOUNCEDLY TO THE "OUT SIDE" WITH AN EMPHASIS ON PACKAGES.

CURRENT AND FORECAST $ SOFTWARE EXPENDITURES

ACTIVITY	$B 1986	$B 1989	$B CHANGE	% OF CHANGE
INHOUSE	4.91	6.06	1.15	34.9
PACKAGE	2.25	3.72	1.47	44.7
PROF. SVCS.	1.14	1.60	0.46	14.0
TURNKEY	0.49	0.65	0.16	4.9
OTHER	0.08	0.13	0.05	1.5
TOTAL	$8.87	$12.16	3.29	100.0

- OBSERVE THAT SUBSTANTIAL INCREASES IN EXPENDITURES ARE EXPECTED IN THE FIRST THREE CATEGORIES. P.S., WHILE SMALLER STILL REPRESENTS A 1989 INCREASE OF 460 MILLION IN EXPENDITURES BY THESE FIRMS. DURING THE STUDY TIME FRAME $5.45 BILLION WILL BE SPENT ON PROFESSIONAL SERVICES.

- THE LARGEST INCREASE IS, OF COURSE, IN PACKAGES WHERE IT APPROACHES $1.5 BILLION.

CURRENT AND FORECAST $ SOFTWARE EXPENDITURES (cont'd)

- INHOUSE - THOUGH GROWING MUCH MORE SLOWLY - STILL SHOWS A 1989 BUDGET DELTA OF $1.15 BILLION.

- TO TAKE ADVANTAGE OF THE STRONG GROWTH IN PACKAGES IT WOULD BE WORTHWHILE FOR A PROFESSIONAL SERVICES FIRM TO ALIGN WITH PACKAGE PROVIDERS IF POSSIBLE.

PROFESSIONAL SERVICES UTILIZATION

- RESPONDENTS WERE ASKED TO ESTIMATE THE PROPORTION OF PROFESSIONAL SERVICES EXPENDITURES ALLOCATED TO CONTRACT PROGRAMMING FOR 1986 AND 1989. 62.3% OF RESPONDENTS WERE ABLE TO MAKE THIS ESTIMATE AND DESIGNATED 56.6% AS THE MEAN VALUE FOR 1986 WITH 90% CONFIDENCE INTERVALS AT 49.7% AND 63.4%. THIS VALUE DROPPED TO 51.8% FOR 1989. NOT A STATISCALLY SIGNIFICANT DROP, OTHER DATA SUGGESTS MINIMAL CHANGE IN THE NATURE OF SERVICES.

PROFESSIONAL SERVICES ACTIVITIES, RANK ORDER

1986 MENTIONS	% TOT.	1989 MENTIONS	% TOT.
CONSULTING	28.3	CONSULTING	31.7
PGM. MAINT.	9.7	COMB. W/INT. STAFF	8.9
COMB. W/INT. STAFF	9.7	SYSTEMS DESIGN	8.9
SYSTEM DESIGN	9.7	TRAINING	6.9
MOD. PACKAGES	7.1	SYS. ANALYSIS	6.9
TRAINING	6.2	MOD. PACKAGES	5.0
SYS. ANALYSIS	6.2	OP./TECH SUPPORT	5.0
DISASTER PLN.	3.5	PROJ. MGMT.	4.0
PROJ. MGMT.	2.7	FEASABILITY STUDIES	2.0
OTHER, MISC.	16.9	OTHER, MISC.	20.7
	100.0		100.0

PROFESSIONAL SERVICES UTILIZATION (cont'd)

- OBSERVE THAT THERE IS NO SIGNIFICANT CHANGE IN SERVICES USED ON A FREQUENCY BASIS WITH THE EXCEPTION THAT PROGRAM MAINTENANCE ACTIVITY IS NOT MENTIONED IN THE 1989 DATA.

- IN CONSIDERING THIS DATA RECOLLECT THAT CONTRACT PROGRAMMING WOULD RATE 100%. ON THIS BASIS, ALL SERVICES AFTER "CONSULTING" ARE USED BY VERY SMALL MINORITIES AND CONSTITUTE A SET OF "FRAGMENTED" SERVICES.

- CHANGES BELOW 6% MAY BE CONSIDERED "NOISE LEVEL."

- THIS UNPROMPTED DATA SUGGESTS THAT CONFIGURATION OF A SERVICE OFFERING BEYOND CONTRACT PROGRAMMING AND CONSULTING IS PROBLEMATIC AND IS LIKELY TO REMAIN SO.

PROFESSIONAL USAGE

- PROFESSIONAL SERVICES USAGE IS WIDESPREAD AMONG RESPONDING COMPANIES. 78.3% INDICATE THEY ARE CURRENTLY USING PROFESSIONAL SERVICES. OF THE 21.7% NOT CURRENTLY USING PROFESSIONAL SERVICES, 53.5% HAVE USED SERVICES IN THE LAST 3 YEARS. EXPRESSED ANOTHER WAY, ONLY 10.1% OF THE UNIVERSE FIRMS HAVE NOT MADE ANY USE OF PROFESSIONAL SERVICES IN THE LAST 3 YEARS.

- ON AN INDUSTRY BASIS, DISTRIBUTION, INSURANCE AND PROCESS MANUFACTURING WERE NOTABLE FOR THEIR LOWER UTILIZATION FREQUENCIES ON A CURRENT BASIS. IN DISTRIBUTION 47.1% CURRENTLY USE PROFESSIONAL SERVICES AND IN INSURANCE THE PROPORTION WAS 58.8%. THE PROPORTION IN PROC. MFG. WAS 64.7%. THESE VALUES ARE SIGNIFICANTLY BELOW THE MEAN AT THE 90% CONFIDENCE INTERVAL.

PROFESSIONAL SERVICES USAGE (cont'd)

- FEDERAL GOVERNMENT EXHIBITED 100% UTILIZATION, STATE AND LOCAL GOVERNMENT 90% AND BANKING 86.7%, ALL SIGNIFICANTLY HIGHER THAN THE MEAN.

- IF CURRENT EXPERIENCE IS A POSITIVE, THE MOST DIFFICULT SECTORS FROM A BUSINESS DEVELOPMENT PERSPECTIVE WOULD BE DISTRIBUTION FOLLOWED BY INSURANCE. THE EASIEST WOULD BE GOVERNMENTAL SECTORS. GREATEST NEW BUSINESS OR "CONQUEST" POTENTIAL WOULD BE THE CONVERSE.

PROJECT CHARACTERISTICS

- FOR THOSE WITH PROFESSIONAL SERVICES EXPERIENCE, EXTENSIVE PROJECT DATA WAS GATHERED.

- THE MEAN PROJECT SIZE WAS FOUND TO BE $22.3 MILLION. THIS MEAN WAS SKEWED HEAVILY BY THE FEDERAL SECTOR WHERE THE AVERAGE REPORTED "LARGEST PROJECT INVOLVING P.S." WAS $103.6 MILLION. ACCORDINGLY, DATA WILL BE PRESENTED BY SECTOR IN RANK ORDER.

INDUSTRY	$M AVG. LARGEST PROJECT	MOS. DURATION	$K/MO.
FEDERAL	22.30	46.3	2,300.0
UTILITIES	8.84	44.1	200.5
S&L GOV'T	7.76	29.1	266.7
INSURANCE	5.70	31.2	182.7
DISC. MFG.	5.07	21.8	232.6
PROC. MFG.	4.81	25.9	185.7
BANKING	3.72	29.9	124.4
DISTRIBUTION	1.46	14.1	103.5

PROJECT CHARACTERISTICS (cont'd)

- OBSERVE THAT SIZES OF LARGEST PROJECTS DISTRIBUTE OVER A 6:1 RANGE WHILE EXPENDITURES PER AVERAGE MONTH VARY OVER A 2.6:1 RANGE, EXCLUSIVE OF FEDERAL WHICH HAD AN AVERAGE DURATION OF 46.3 MONTHS AND MONTHLY EXPENDITURES OF $2.3 MILLION PER MONTH.

- FROM A PROJECT SIZE STANDPOINT, UTILITIES AND S&L WOULD APPEAR VERY DESIRABLE, PARTICULARLY S&L SINCE IT ALSO GENERATES HIGH MONTHLY DISBURSEMENTS.

- WELL BELOW THE MEAN ARE BANKING AND DISTRIBUTION PROJECTS WHICH ARE MUCH SMALLER AND INVOLVE LOW-END MONTHLY SUMS. GIVEN THE LOW INCIDENCE OF CURRENT PROJECTS IN DISTRIBUTION (47.1%) THIS APPEARS TO BE THE LEAST DESIRABLE OF THE SECTORS INVESTIGATED.

NOTE: BANKING RESPONDENTS HAD AN UNUSUALLY LOW DISCLOSURE RATE FOR PROJECT EXPENDITURES OF 35%. THIS MAY BIAS THIS DATA FOR THE SECTOR IN UNDETERMINABLE WAYS.

PROFESSIONAL SERVICES PROPORTION OF TOTAL PROJECT

- OF THE LARGEST PROJECTS INVOLVING PROFESSIONAL SERVICES AN AVERAGE OF 37.8% OF TOTAL PROJECT EXPENDITURES WERE FOR PROFESSIONAL SERVICES. ONCE AGAIN, FEDERAL SKEWS THE RESULTS WITH 62.9% REPORTED AS PROFESSIONAL SERVICES. THE DATA ARRAYS AS FOLLOWS (EX. FED.):

SECTOR	% P.S.	$ P.S.	$ K P.S./MONTH
FEDERAL	62.9	65.16	1,407.4
S&L GOV'T	48.7	3.78	129.9
UTILITIES	40.0	3.54	80.27
INSURANCE	34.3	1.96	62.7
DISC. MFG.	30.2	1.53	70.2
DISTRIBUTION	27.9	0.41	28.9
PROC. MFG.	24.6	1.18	45.7
BANKING	20.8	0.77	25.9

PROFESSIONAL SERVICES PROPORTION OF TOTAL PROJECT (cont'd)

- AS ON TOTAL PROJECT SIZE, S&L AND UTILITIES APPEAR MOST ATTRACTIVE WHILE BANKING AND DISTRIBUTION ARE LEAST ATTRACTIVE WITH VERY MODEST PROFESSIONAL SERVICES EXPENDITURES ON THEIR LARGE PROJECTS.

- THE RANGE ON PROFESSIONAL SERVICES EXPENDITURES IS 9.2:1 COMPARED TO 6:1 ON PROJECT SIZE IN THE SECTORS TESTED. THE EFFECT OF THIS IS TO EMPHASIZE THE RELATIVE UNDESIRABILITY OF DISTRIBUTION.

- AS A RULE OF THUMB, ABOUT 1/3 OF TOTAL PROJECT EXPENDITURES ARE DEVOTED TO P.S. WHEN P.S. IS PRESENT.

USE OF SOFTWARE PACKAGES

- RESPONDENTS WERE QUERIED AS TO THE USE OF SOFTWARE PACKAGES ON THE SPECIFIED LARGE PROJECT. 59.8% INDICATED THE PROJECT INVOLVED A PACKAGE WHILE 40.2% INDICATED IT DID NOT.

- PACKAGES INVOLVED AN AVERAGE OF 16.2% OF PROJECT EXPENDITURES WHEN PRESENT. THE 90% INTERVAL WAS 10.1% TO 22.3%.

- ONLY TWO SECTORS DIFFERED MATERIALLY FROM THE MEAN. IN DISTRIBUTION THE PROPORTION WAS HIGHEST AT 26.8% AND IN DISCRETE MANUFACTURING IT WAS LOW AT 9.0%. FEDERAL, WHILE DIFFERENT IN MANY WAYS, DOES NOT SKEW THIS MEAN.

PACKAGES INVOLVED

- PRIMARILY, PACKAGES WERE FOUND IN FINANCIALLY RELATED AREAS.

- MSA RECEIVED FIVE MENTIONS, MC CORMACK & DODGE ONE BY NAME.

- MODEL 204 DBMS MENTIONED 3 TIMES IN GOVERNMENT, IMS & CULLINET ONLY COMMERCIAL MENTIONS.

- LIFE 70 RECEIVED MULTIPLE MENTIONS IN INSURANCE. HOGAN IN BANKING, MAPICS IN MFG.

- PACKAGES REFLECT NATURE OF PROJECTS AND DISPLAY LITTLE COHERENCE AFTER FINANCIAL PACKAGES.

PROJECT TYPES

- PROJECTS WERE HEAVILY INDUSTRY-SPECIFIC WITH TWO EXCEPTIONS: FINANCIAL PROJECTS CONSTITUTED 24.5% OF ALL PROJECTS COVERED AND "CORPORATE DB'S" ACCOUNTED FOR 13.2% FOR A TOTAL OF 37.7% OF ALL APPLICATIONS.

- IN DISC. MFG. MANUFACTURING SYSTEMS ACCOUNTED FOR 25% OF MENTIONS BUT ONLY 6% IN PROCESS MANUFACTURING.

- INDUSTRY SPECIALIZED SYSTEMS WERE MOST PRONOUNCED IN INSURANCE WHERE THEY ACCOUNTED FOR 58% OF MENTIONS.

- CREDIT AND DEPOSIT FUNCTIONS ACCOUNTED FOR 50% OF BANKING APPLICATIONS.

- CONSULTING WAS A PROMINENT "SECOND USE" IN DISTRIBUTION.

- PROJECTS IN UTILITIES WERE VERY DIVERSE, INCLUDING REAL ESTATE MANAGEMENT, CUSTOMER RECORDS AND MANY OTHERS.

PROJECT TYPES (cont'd)

- FEDERAL WAS NOTABLE FOR CITATION OF "OPERATIONS AND MAINTENANCE" AT 50% OF THE LARGEST PROJECTS.

- S&L GOVERNMENT WAS HEAVILY FINANCIAL WITH OTHER MENTIONS OF DMV SYSTEMS, HUMAN RESOURCES AND LOTTERY.

- IN GENERAL IT APPEARS THAT DB CAPABILITY AND FINANCIAL SYSTEMS CAPABILITY ARE THE "WIDE BAND" AREAS WITH VERY CONSIDERABLE FRAGMENTATION AFTER THESE TWO AREAS AND AN ABSENCE OF COMMON ELEMENTS IN PROJECT TYPES.

SELECTION CRITERIA

- RESPONDENTS WERE QUERIED IN AN UNPROMPTED FASHION AS TO THE REASONS A SPECIFIC CHOICE OF FIRM WAS MADE. 221 RESPONSES WERE PROVIDED ACROSS 106 PROJECTS FOR AN AVERAGE OF 2.1 REASONS PER PROJECT. IN RANK ORDER, REASONS GIVEN ARE AS FOLLOWS:

REASON	% MENTIONING
TECHNICAL CAPABILITY, EXPERTISE, KNOWLEDGE	21.7
FINANCIAL/COST	15.8
EXPERIENCE WITH HARDWARE/SOFTWARE	15.4
PRIOR EXPERIENCE W/FIRM	14.5
REPUTATION	7.7
COMPETITIVE BASED ON RFP	6.3
STAFF QUALITY	5.4
RECOMMENDATIONS	3.2
PROJECT APPROACH	1.8
LOCAL ORGANIZATION	1.4
BIG 8 FIRM	0.9
OTHER, MISC.	5.9
	100.0

SELECTION CRITERIA (cont'd)

- AS CAN BE SEEN, THERE IS A SHARP DROP AFTER THE FIRST FOUR CRITERIA WHICH COMPRISE 67.4% OF ALL RESPONSES.

- ALMOST ONE IN SEVEN INDICATE THAT PRIOR EXPERIENCE IS POWERFUL.

- COST APPEARS UNUSUALLY STRONG, PROBABLY AS A RESULT OF THE PRESENCE OF GOVERNMENT IN THE STUDY.

- THE JUDGMENTAL AND SUBJECTIVE QUALITIES OF THESE CRITERIA ARE NOTABLE. MOST ARE A MATTER OF PERCEPTION PRIOR TO AWARD.

ROLE OF PROFESSIONAL SERVICES FIRMS

- RESPONDENTS WERE QUERIED ON THE ROLE WHICH A PROFESSIONAL SERVICES FIRM "IS BEST ABLE TO FULFILL DURING A PROJECT." EIGHT ACTIVITIES WERE PRESENTED. RESPONDENTS WERE ASKED TO RATE THE IMPORTANCE OF THE P.S. ROLE IN THEIR PROJECTS ON A SCALE OF ONE TO FIVE (1-5). 1 = UNIMPORTANT, 5 = VERY IMPORTANT.

ITEM	RATING	% 4/5
REQUIREMENTS DEF.	2.7	31.2
SYSTEMS DESIGN	3.1	37.0
PROGRAM SPECIFICATION	3.1	38.4
CODING	3.4	52.2
UNIT TESTING	3.2	46.4
SYSTEM TESTING	3.1	39.9
DOCUMENTATION	3.3	47.8
USER TRAINING	2.6	25.4

- DATA IS "WELL-BEHAVED," I.E. DISTRIBUTIONS OF RESPONSE ARE NORMAL. THERE IS NO SPLIT OPINION.

ROLE OF PROFESSIONAL FIRMS (cont'd)

- PROCESS "ENDS" REQUIREMENTS DEFINITION AND USER TRAINING ARE SIGNIFICANTLY LESS IMPORTANT TO RESPONDENTS THAN CODING AT THE 90% CONFIDENCE INTERVAL.

- DOCUMENTATION EXHIBITS STRONG IMPORTANCE, NEARLY EQUAL TO CODING.

- SYSTEM TESTING IS SIGNIFICANTLY LESS IMPORTANT THAN CODING BUT UNIT TESTING IS NOT.

- % 4/5 SHOWS THAT A MATERIAL MINORITY CONSIDERS ANY FUNCTION OF THIS GROUP TO BE OF HIGH IMPORTANCE.

- ABOUT .4 POINTS DIFFERENCE ON THE SCALE IS NEEDED TO ACHIEVE SIGNIFICANCE.

PROFESSIONAL SERVICES ROLE BY INDUSTRY

- THERE IS A GENERAL TENDENCY FOR FEDERAL GOVERNMENT RESPONDENTS TO RATE ALL CATEGORIES MORE HIGHLY AND EVENLY. PRESUMABLY THIS REFLECTS THE EXTENSIVE USE OF PROFESSIONAL SERVICES IN THESE SECTORS. FEDERAL RATINGS RUN 3.6 - 3.9 ACROSS ALL CATEGORIES.

- PROCESS MANUFACTURING PLACES DISPROPORTIONATE EMPHASIS ON CODING (4.1) AND RATES REQUIREMENTS DEFINITION VERY LOW (1.9). AN "ANTIQUE" PERCEPTION OF PROFESSIONAL SERVICES?

- OTHER INDUSTRIES FOLLOW THE PATTERN OF THE GROUP MEANS.

- WE CONCLUDE THAT THERE IS A GOOD DEAL OF UNIFORMITY IN THE PERCEPTION OF P.S. ROLES ACROSS INDUSTRIES WITH THE ABOVE EXCEPTIONS.

- THIS INDICATES THAT MARKETING PROGRAMS CAN HAVE UNIFORM CHARACTERISTICS WITH RESPECT TO ROLES BUT THAT MOVING TO PROCESS BEGINNINGS AND ENDS MAY BE SOMEWHAT DIFFICULT. THE "BODY SHOP" HERITAGE STILL HAS CONSIDERABLE STRENGTH.

PROFESSIONAL SERVICES VENDOR CAPABILITIES

- EIGHT SPECIFIC CAPABILITIES OF PROFESSIONAL SERVICES VENDORS WERE EVALUATED IN THE SAME FORMAT AS PROJECT ROLES, I.E., IMPORTANCE ON A 1-5 SCALE. BY RANK ORDER OF CAPABILITY DATA ARE AS FOLLOWS:

	ITEM	RATING	% 4/5
1.	EXPERIENCE W/YR. DBMS	3.9	67.4
2.	SPECIFIC APP. EXPERIENCE	3.6	52.2
3.	EXPERIENCE W/TP MONITOR	3.5	49.3
4.	IND./PROG. EXPERIENCE	3.5	43.5
5.	PROJ. RELATED SW. EXP.	3.2	37.0
6.	VENDOR'S DEV. METHODOLOGY	3.1	42.8
7.	NETWORKING EXPERIENCE	3.0	31.9
8.	VENDOR DEV. TOOLS	2.6	21.7

- DATA ARE ORDERLY WITH NO SPLIT OPINION.

- AT THE 90% INTERVAL DBMS EXPERIENCE IS SIGNIFICANTLY MORE IMPORTANT THAN OTHER ITEMS TESTED.

PROFESSIONAL SERVICES VENDOR CAPABILITIES (cont'd)

- VENDOR DEVELOPMENT TOOLS ARE SIGNIFICANTLY LESS IMPORTANT THAN ALL OTHER ITEMS.

- NETWORKING EXPERIENCE IS SIGNIFICANTLY LESS IMPORTANT THAN THE TOP FOUR ITEMS.

- 0.4 POINTS IS REQUIRED TO ACHIEVE SIGNIFICANT DIFFERENCE.

- AS IN P.S. ROLES, EVEN LESS POWERFUL ITEMS HAVE MATERIAL PROPORTIONS STATING THAT IMPORTANCE IS HIGH.

- NO MATERIAL INDUSTRY DIFFERENCES EMERGE IN THIS DATA IN TERMS OF IMPORTANT CAPABILITIES. AS IN ROLES, THERE IS A TENDENCY FOR FEDERAL GOVERNMENT TO RATE ALL MORE HIGHLY.

- THE HIGH RATING OF SPECIFIC APPLICATIONS EXPERIENCE WOULD SEEM TO BE A CONSTRAINT IN EXPANDING THE VARIETY OF JOBS UNDERTAKEN.

IMPORTANCE OF BUSINESS FACTORS

- A LARGE NUMBER OF BUSINESS FACTORS (18 IN TOTAL) WERE TESTED WITH THE FOLLOWING QUERY: "IN TERMS OF P.S. VENDOR SELECTION FOR A MAJOR PROJECT, HOW IMPORTANT WOULD ____ BE?"

ITEM	RATING	% 4/5
VENDOR REPUTATION	4.0	77.5
VENDOR REFERENCES	3.8	64.5
PRICE QUOTE	3.8	59.4
TERM AND CONDITIONS	3.7	59.4
INDUSTRY SPECIALTY	3.7	59.4
PRIOR EXP. WITH VENDOR	3.6	57.3
SHORTEST REALISTIC SCHED.	3.4	50.0
OFFICE IN AREA	3.3	47.8
SALES REPRESENTATIVE	3.3	41.3
LOWEST PRICE	3.0	22.5
LARGE VENDOR	2.7	21.0
HARDWARE MFG. AFFIL.	2.2	15.9
INDEPENDENT FIRM	2.2	11.6
SMALL VENDOR	2.2	6.5
ACCOUNT FIRM AFFIL.	2.1	10.9
TRADE SHOWS	1.5	1.5
DEF. CONT. AFFIL.	1.4	4.5
ADVERTISING	1.4	1.5

IMPORTANCE OF BUSINESS FACTORS (cont'd)

- AS CAN BE SEEN, THERE IS AN EXTREMELY WIDE VARIATION IN THE IMPORTANCE OF VARIOUS BUSINESS FACTORS.

- THE ITEMS RECEIVING THE HIGHEST RATING - REPUTATION -IS BEYOND SHORT-TERM CONTROL AND IS ESSENTIALLY CUMULATIVE. IT IS SIGNIFICANTLY MORE IMPORTANT THAN ALL OTHER ITEMS SAVE REFERENCES AND THE PRICE QUOTE.

- OF SURPRISINGLY HIGH IMPORTANCE IS VENDOR REFERENCES. THIS PROBABLY RELATES TO INDUSTRY SPECIALTY AS WELL AS REPUTATION.

- THE SIGNIFICANT GAP BETWEEN THE PRICE QUOTE AND LOWEST PRICE RATINGS INDICATES THAT WHILE PRICE IS IMPORTANT, HAVING SIMPLY THE LOWEST PRICE IS NOT VERY POWERFUL.

- SPECIFIC TERMS AND CONDITIONS, INDUSTRY SPECIALIZATION AND PRIOR EXPERIENCE WITH VENDOR FORM A POWERFUL SECOND TIER OF CRITERIA. THIS SUGGESTS THAT IT WOULD BE VERY DIFFICULT TO DISLODGE A COMPETITOR PERFORMING COMPETENTLY.

IMPORTANCE OF BUSINESS FACTORS (cont'd)

- SHORTEST REALISTIC SCHEDULE WAS NOT POWERFULLY IMPORTANT, RATING A 3.4 AND 50% HIGHLY IMPORTANT.

- LIKEWISE, A LOCAL OFFICE WAS DEEMED HIGHLY IMPORTANT BY SLIGHTLY LESS THAN A MAJORITY.

- THE REPRESENTATIVE'S ROLE IS JUDGED MODERATELY IMPORTANT AT 3.3 AND HIGHLY IMPORTANT BY 41.3%. THIS IS RELATIVE TO OTHER FACTORS TESTED AS IS ALL DATA IN THIS SECTION.

- NOTE THE DISCONTINUITY IN HIGHLY IMPORTANT PROPORTIONS AT THIS POINT. WHILE RATINGS DROP ONLY A FEW TENTHS OF A POINT, THE DISTRIBUTIONS ROTATE AROUND THE MID-POINT "3" AND BECOME SKEWED TOWARD "UNIMPORTANT."

- BASICALLY, ALL ITEMS BELOW "LARGE VENDOR" MAY BE CONSIDERED UNIMPORTANT. VERY MINOR PROPORTIONS OF RESPONDENTS CONSIDER THE TYPE OF VENDOR TO BE IMPORTANT.

IMPORTANCE OF BUSINESS FACTORS (cont'd)

- PROMOTIONAL METHODS ACHIEVE RATINGS BEST DESCRIBED AS TRIVIAL.

- AS IN THE CASE OF CAPABILITIES, MEANINGFUL INDUSTRY DIFFERENCES WERE NOTABLE IN THEIR ABSENCE AND EXIST MOSTLY WITH RESPECT TO FEDERAL.

- FEDERAL RATES PRIOR EXPERIENCE AS LESS IMPORTANT (2.8 VS. 3.6).

- FEDERAL RATES PRICE QUOTE AND LOW PRICE MORE HEAVILY (4.5 VS. 3.8 AND 3.7 VS. 3.0) A WEAKER TENDENCY OF THE SAME TYPE IS FOUND IN S&L GOVERNMENT.

- THERE IS A TENDENCY FOR PRIOR EXPERIENCE TO WEIGH MORE HEAVILY IN DISC. MFG. AND FOR INDUSTRY SPECIALIZATION TO WEIGH MORE HEAVILY IN INSURANCE.

IMPORTANCE OF BUSINESS FACTORS (cont'd)

- DISC. MFG. TEND TO RATE "LARGE FIRM" AS MORE IMPORTANT.

- THESE ITEMS ARE MATTERS OF DIRECTION, NOT STATISTICAL SIGNIFICANCE.

- BUSINESS FACTORS EXHIBIT CONSIDERABLE UNIFORMITY ACROSS INDUSTRIES WITH A MARKED ABSENCE OF INTER-INDUSTRY VARIATION SEEN.

CONTRACTUAL TERMS PREFERENCE

- FOUR CONTRACT TYPES WERE TESTED. RESPONDENTS WERE ASKED TO RATE THE TYPES ON THE 1-5 SCALE FOR PREFERENCE.

TYPE	RATING	% 4/5
FIXED PRICE, PERF. GUAR.	4.1	80.4
FIXED PRICE	3.4	50.7
TIME & MATERIALS	2.8	30.4
COST PLUS	2.1	10.1

- DATA ARE POWERFULLY GROUPED. EACH IS SIGNIFICANTLY DIFFERENT FROM THE OTHER AT THE 90% CONFIDENCE LEVEL.

- THERE IS STRONG REJECTION OF COST PLUS, MODERATE ACCEPTANCE OF T&M, GOOD ACCEPTANCE OF FIXED PRICE AND A POWERFULLY POSITIVE RESPONSE TO PERFORMANCE GUARANTEE.

FIXED PRICE PREMIUM

- RESPONDENTS WERE ASKED TO RESPOND TO A HYPOTHETICAL SITUATION AS FOLLOWS: "A VENDOR QUOTES A LARGE PROJECT AT A SPECIFIC AMOUNT REASONABLE TO YOU. THE VENDOR THEN STATES THAT FOR 25% MORE HE WILL GUARANTEE THE PRICE OF THE PROJECT. ON A SCALE OF 1-5 WITH ONE BEING UNFAVORABLE AND FIVE VERY FAVORABLE, HOW WOULD YOU RATE THE VENDOR'S PROPOSAL?" RESULTS ARE AS FOLLOWS:

PREMIUM	RATING	% 4/5	PRODUCT
25%	2.0	11.7	292.5
20%	2.2	14.8	296.0
15%	2.5	28.1	421.5
10%	3.0	43.0	430.0

- OBSERVE THAT EVEN AT A 25% PREMIUM ABOUT 1 IN 8.5 RESPONDENTS RATES THE PROPOSITION A 4/5.

- THE RATING CLIMBS MODESTLY AT A 20% PREMIUM AND 14.8% OR 1 IN 6.8 RATE THIS PROPOSITION FAVORABLY.

FIXED PRICE PREMIUM (cont'd)

- THE NEXT INCREMENT (TO 15%) SHARPLY INCREASES THE FAVORABLE RATINGS, ALMOST DOUBLING THE 4/5 PROPORTION.

- A DROP TO A 10% CREATES ANOTHER POSITIVE INCREMENT TO 43.5% HIGHLY FAVORABLE.

- TO MEASURE THE INCREMENTAL "REVENUE" VALUE OF THE PROPOSITIONS WE MAY MULTIPLY THE PREMIUM BY THE PROPORTION OF HIGH FAVORABLES (4/5).

- THIS SHOWS THAT AT 25% PREMIUM SUBSTANTIAL "REVENUES" ARE AVAILABLE FROM THE 11.7% RATING 4/5.

- A DROP TO 20% DOES NOT SHARPLY INCREASE REVENUE, THIS IS NOT A USEFUL PREMIUM.

- AT 15% THE PRODUCT LEAPS UP, CLIMBING ONLY SLIGHTLY AT THE 10% PREMIUM.

FIXED PRICE PREMIUM (cont'd)

- THE DATA INDICATE THAT REVENUE MAXIMIZATION OCCURS AROUND A 15% PREMIUM OR SLIGHTLY HIGHER. THERE IS VERY HIGH SENSITIVITY ABOVE THIS FIGURE.

- A VERY HIGH PROFIT LIMITED BUSINESS COULD BE OPERATED AT THE 25% PREMIUM LEVEL.

- IT IS IMPORTANT TO UNDERSTAND THAT THERE IS A STRONG CURRENT OF REJECTION RUNNING THROUGH THE PREMIUM CONCEPT.

PREMIUM	25%	20%	15%	10%
I RATE %	43.8	37.5	32.8	28.9

- OBSERVE THAT LARGE PROPORTIONS OF RESPONDENTS REJECT ANY PREMIUM AS "UNFAVORABLE."

- THIS SUGGESTS THAT CARE BE EXERCISED IN ADVANCING THE PROPOSITION TO POTENTIAL CLIENTS.

FIXED PRICE PREMIUM (cont'd)

- ON AN INDUSTRY BASIS, GOVERNMENTS ARE INHOSPITABLE TO THE CONCEPT WHILE INSURANCE AND DISTRIBUTION REGARD IT MORE FAVORABLY THAN AVERAGE. UTILITIES SHOW A SHARPER POSITIVE RESPONSE TO LOWER PREMIUMS THAN AVERAGE. OTHER THAN GOVERNMENT, INDUSTRY TENDENCIES ARE MUTED.

RATINGS OF SPECIFIC FIRMS

	FIRM	RATING	% 4/5	EXPERIENCE %
1.	IBM	3.5	44.2	75.4
2.	EDS	3.2	26.8	29.7
3.	McDONNELL	3.2	23.2	26.1
4.	A. ANDERSEN	3.1	26.8	52.2
5.	PEAT-MARW.	3.1	18.8	31.9
6.	BOEING	3.1	19.6	26.8
7.	COOP & LYB.	3.0	17.4	29.7
8.	PRICE WATERHOUSE	3.0	16.7	29.0
9.	A. YOUNG	2.9	11.6	31.9
10.	CSC	2.9	10.1	25.4
11.	CTG	2.9	8.0	15.2
12.	AMS	2.9	8.0	12.3
13.	AT&T	2.8	14.5	44.2
14.	DASD	2.8	6.5	13.0
15.	CDSI	2.6	2.9	5.1
16.	COMP. HORZ.	2.5	2.9	7.3
17.	PRC	2.5	2.2	5.0

RATINGS OF SPECIFIC FIRMS (cont'd)

- RESPONDENTS WERE ASKED TO RATE 17 SPECIFIC FIRMS INCLUDING PRICE WATERHOUSE IN TERMS OF HOW SATISFACTORY THEY THOUGHT THE FIRM WOULD BE IN MEETING THEIR PROFESSIONAL SERVICES NEEDS. 1 = UNSATISFACTORY; 5 = VERY SATISFACTORY.

- ON RATINGS 0.4 POINTS IS NEEDED TO MAKE A SIGNIFICANT DIFFERENCE AT THE 90% INTERVAL.

- THIS SUGGESTS THAT, IN GENERAL, COMPETITION CAN BE INTENSE SINCE THERE IS A LARGE GROUP OF VIABLE COMPETITORS.

- IBM HAS AN IMPRESSIVE LEADERSHIP POSITION WITH THE HIGHEST MEAN, HIGHEST % 4/5 AND HIGHEST EXPERIENCE LEVEL.

- EDS AND MCDONNELL ARE INSIGNIFICANTLY LOWER ON MEAN RATINGS BUT SHOW MUCH LOWER EXPERIENCE LEVELS AND 4/5 PROPORTIONS.

RATINGS OF SPECIFIC FIRMS (cont'd)

- AMONG ACCOUNTING FIRMS ARTHUR ANDERSEN LEADS ALL FIRMS BUT IBM IN EXPERIENCE, SHOWS A GOOD OVERALL RATING AND HAS A 4/5% AS HIGH AS EDS.

- THE "SECOND QUARTILE" IS COMPRISED LARGELY OF A GROUP OF ACCOUNTING FIRMS, ROUGHLY EQUAL IN EXPERIENCE AND RATINGS. ON A RATINGS BASIS VIABLE COMPETITORS FOR THESE FIRMS WOULD EXTEND TO NEARLY THE BOTTOM OF THE LIST.

- THERE IS A SHARP BREAK IN EXPERIENCE AT FIRM #10, CSC. WITH THE EXCEPTION OF AT&T ALL HAVE LIMITED EXPOSURE.

- GIVEN THE EXISTENCE OF SOME CORRELATION BETWEEN RATING AND EXPOSURE, AT&T'S POSITION IS VERY WEAK. NOTE THE LOW % 4/5.

- "MINOR" COMPETITORS WITH LOW EXPOSURE MAKE UP THE BALANCE OF THE LIST. APPARENTLY THESE HAVE LITTLE NATIONAL PRESENCE.

RATINGS OF SPECIFIC FIRMS (cont'd)

- BECAUSE OF THE CLOSENESS OF THE RATINGS, ALMOST ANY OF THESE FIRMS CAN BE A VIABLE COMPETITOR IN A SPECIFIC ACCOUNT.

INTERNAL FACTORS

- RESPONDENTS WERE ASKED TO RATE A SERIES OF 8 ITEMS AS INTERNAL FACTORS IN THEIR CHOICE TO EMPLOY PROFESSIONAL SERVICES. ON THIS SCALE 5 = "ALMOST ALWAYS INFLUENCES" WHILE 1 = "RARELY INFLUENCES" THE DECISION TO USE PROFESSIONAL SERVICES.

FACTOR	RATING	% 4/5
PERSONNEL SHORTAGES	4.1	70.3
INHOUSE SKILLS N.A.	3.8	66.7
TIME PRESSURES	3.5	54.4
EXTERNAL EVENTS (REG.)	2.8	30.4
USER PRESSURES	2.8	27.5
GEN. MGMT. PREFERENCE	2.2	11.6
PROBS. W/SIMILAR SYST.	2.1	13.8
GEN. MGMT. CHANGES	2.0	8.0

- THE TOP THREE ITEMS ARE A POWERFUL SET OF MOTIVATORS PRESENT WHEN PROFESSIONAL SERVICES IS USED. THE PROPORTIONS INDICATE THAT THEY COULD EXIST SIMULTANEOUSLY IN MANY CASES. THESE ARE "HEAVY" INFLUENCES.

INTERNAL FACTORS (cont'd)

- AFTER THE TOP THREE, A SHARP DISCONTINUITY OCCURS TOWARD MORE MINOR INFLUENCES. USER PRESSURES AND EXTERNAL EVENTS STILL HAVE RELATIVELY HIGH FREQUENCIES OF STRONG INFLUENCE HOWEVER.

- THE LAST THREE ARE AGAIN LESS POWERFUL BUT CAN BE OCCASIONALLY POWERFUL.

- INDUSTRY VARIATION IS MINOR. DISTRIBUTION IS LESS INFLUENCED BY PERSONNEL SHORTAGES AND TIME PRESSURES THAN OTHER INDUSTRIES. FEDERAL SHOWS HIGHER THAN AVERAGE INFLUENCE BY MANAGEMENT PREFERENCE, EXTERNAL EVENTS AND PRIOR SYSTEM PROBLEMS. EXTERNAL EVENTS INFLUENCE IS LOWER THAN AVERAGE IN INSURANCE. THESE ARE THE ONLY SPECIFIC INDUSTRY TENDENCIES FOUND.

COMPETITIVE

- RESPONDENTS INDICATED THAT 32.5% "OF THE LAST MAJOR CONTRACT(S)" WERE SOLE SOURCE WHILE 67.5% WERE COMPETITIVE.

- BY INDUSTRY SECTOR, THE DATA APPEARS AS FOLLOWS:

SECTOR	% COMPETITIVE	AVG # COMPETING
INSURANCE	50.0	4.3
DISC. MFG.	58.8	3.2
PROC. MFG.	69.2	3.3
S&L GOVERNMENT	100.0	7.9
BANKING	35.7	4.3
DISTRIBUTION	76.9	3.7
UTILITIES	50.0	3.8
FED. GOVERNMENT	93.3	6.7
MEAN	67.5	5.1

- OBSERVE THAT BANKING IS THE LEAST FREQUENT USER OF COMPETITIVE PROCUREMENT BUT WHEN COMPETITION OCCURS THE NUMBER OF COMPETITORS IS SUBSTANTIAL.

COMPETITIVE (cont'd)

- GOVERNMENTS CLAIM HEAVY COMPETITION, AS WOULD BE EXCEPTED.

- DISTRIBUTION AND PROCESS MANUFACTURING ARE THE MOST "OPEN" COMMERCIAL SECTORS.

- THE MEAN DOES NOT PROPERLY PRESENT THIS DATA. GENUINE INDUSTRY VARIATION EXISTS IN COMPETITIVE PRACTICES.

- REASONS FOR AWARD LOOK LIKE EARLIER DATA.

COMMENT

- PROFESSIONAL SERVICES TO LARGE ORGANIZATIONS WILL CONTINUE TO GROW AS A MARKET THROUGH 1989 AT MODERATE RATES SOMEWHAT HIGHER THAN OVERALL MIS BUDGET GROWTH EXPECTED DURING THE SAME PERIOD.

- THIS WILL RESULT IN A SHARE INCREASE OF MODEST NATURE TO 13.2% OF SOFTWARE EXPENDITURES BY 1989 WHEN ORGANIZATIONS IN THE STUDY UNIVERSE WILL EXPEND $1.6 BILLION ON PROFESSIONAL SERVICES, UP FROM THE CURRENT $1.14 BILLION.

- CONTRACT PROGRAMMING AND CONSULTING ARE AND WILL REMAIN THE PRIMARY FORMS OF PROFESSIONAL ACTIVITY.

- PROFESSIONAL SERVICES USAGE IS VERY WIDESPREAD, 89.9% OF RESPONDENTS HAVE MADE USE OF THESE SERVICES IN THE LAST THREE YEARS.

COMMENT (cont'd)

- THERE IS SUBSTANTIAL VARIATION IN PROJECT SIZE BY INDUSTRY WITH UTILITIES OPERATING THE LARGEST PROJECTS ($8.8 MILLION AVERAGE) AND DISTRIBUTION THE SMALLEST ($1.5 MILLION).

- PACKAGE-USE IN CONJUNCTION WITH P.S. IS NOW THE MAJORITY MODE. ALMOST 60% OF P.S. PROJECTS INVOLVE PACKAGES.

- AFTER FINANCIAL AND DATABASE APPLICATIONS WHICH COMPRISE ALMOST 38% OF PROJECTS, PROJECT TYPES BECOME HIGHLY FRAGMENTED AND INDUSTRY-SPECIFIC. PACKAGES ARE MOST COMMONLY ASSOCIATED WITH FINANCIAL APPLICATIONS.

- THE "BODY SHOP" HERITAGE IS STILL STRONG WITH HIGHEST IMPORTANCE ATTACHING TO THE CODING FUNCTION AND LESS EMPHASIS PLACED ON THE PROFESSIONAL SERVICES ROLE IN EARLY AND LATE PROJECT STAGES.

COMMENT (cont'd)

- BUSINESS FACTORS ARE HEAVILY WEIGHTED TOWARDS REPUTATION, REFERENCES, REASONABLE PRICE AND INDUSTRY SPECIALIZATION.

- TECHNICAL FACTORS WEIGH TOWARDS DBMS EXPERIENCE AND SPECIFIC APPLICATIONS EXPERIENCE. METHODOLOGY AND TOOLS ARE OF MUCH LOWER IMPORTANCE.

- FIXED PRICE AND FP WITH PERFORMANCE GARANTEE ARE THE OVERWHELMINGLY PREFERED PRICING METHODS.

- A PREMIUM FOR FIXED PRICE IS A VIABLE PROPOSITION FOR MANY BUT THERE IS A STRONG UNDERCURRENT OF REJECTION BY A SIGNIFICANT MINORITY (28.9% AT 10% PREMIUM).

- COMPETITIVELY, THERE ARE INTENSE PRESSURES, ALMOST ALL FIRMS TESTED ARE VIABLE COMPETITORS. THIS IS PARTICULARLY TRUE FROM THE PRESPECTIVE OF FIRMS WITH MIDDLE RANKING ON SATISFACTION.

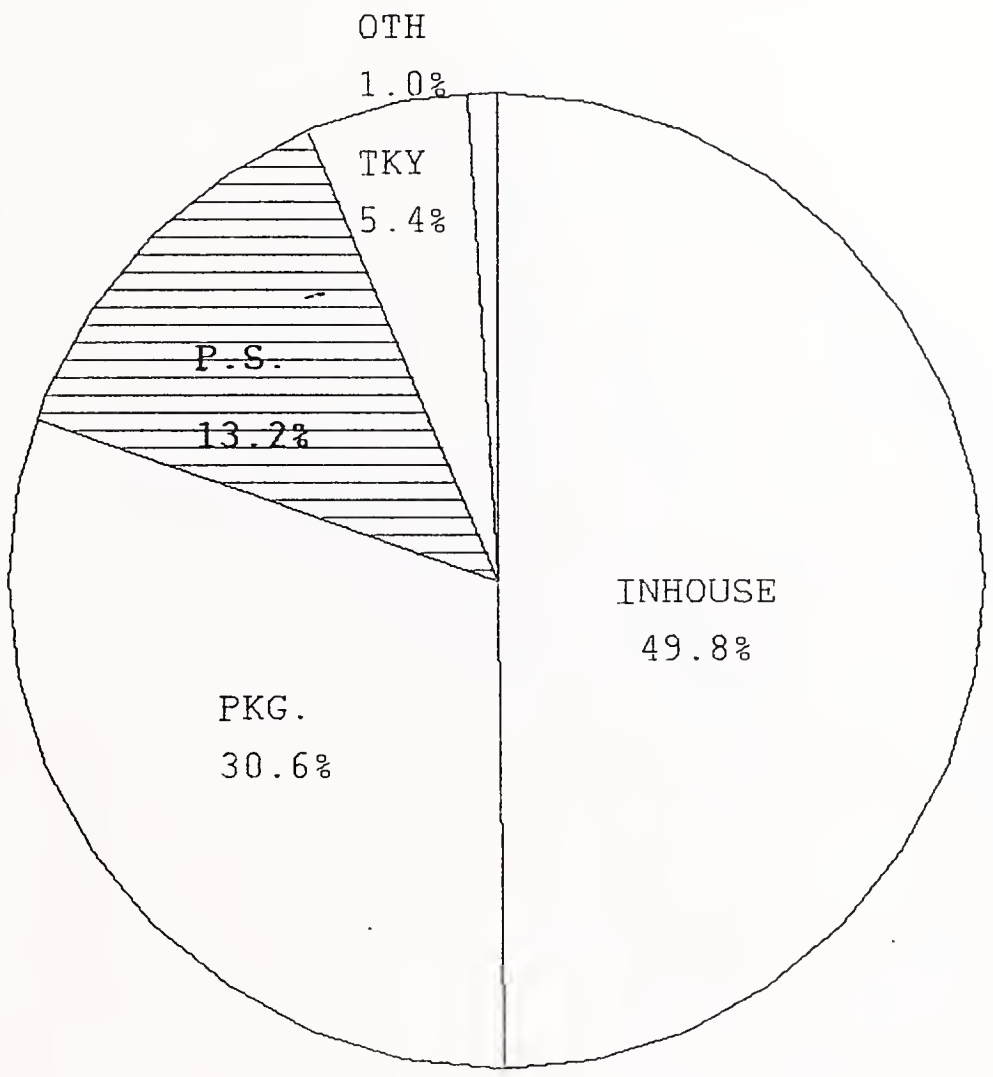
COMMENT (cont'd)

- PROFESSIONAL SERVICES USE MOTIVATIONS REMAIN TRADITIONAL WITH PERSONNEL SHORTAGES, LACK OF INHOUSE SKILLS AND THE TIME PRESSURES PLAYING MAJOR ROLES.

- IN SUM, PROFESSIONAL SERVICES TO LARGE FIRMS CAN BE CONSIDERED TO BE A MARKET OF SUBSTANTIAL SIZE AND MODERATE GROWTH WITH DEFINED CHARACTERISTICS AND USER PREFERENCES. RAPID CHANGE IN NEEDS OR COMPETITION DOES NOT APPEAR TO BE IN STORE.

1989 SOFTWARE SHARES

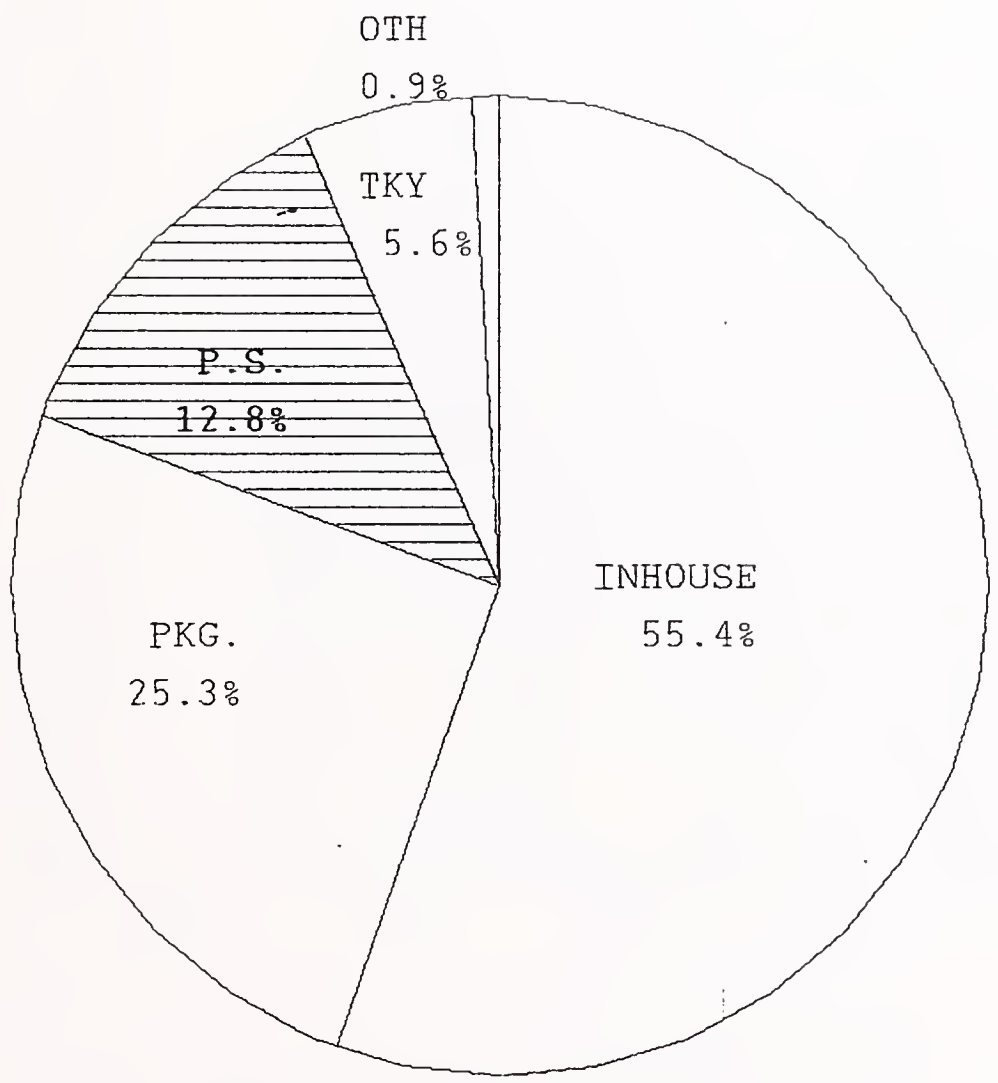
BY EXPENDITURE CATEGORY



TOTAL = $12.16 BILLION

1986 SOFTWARE SHARES

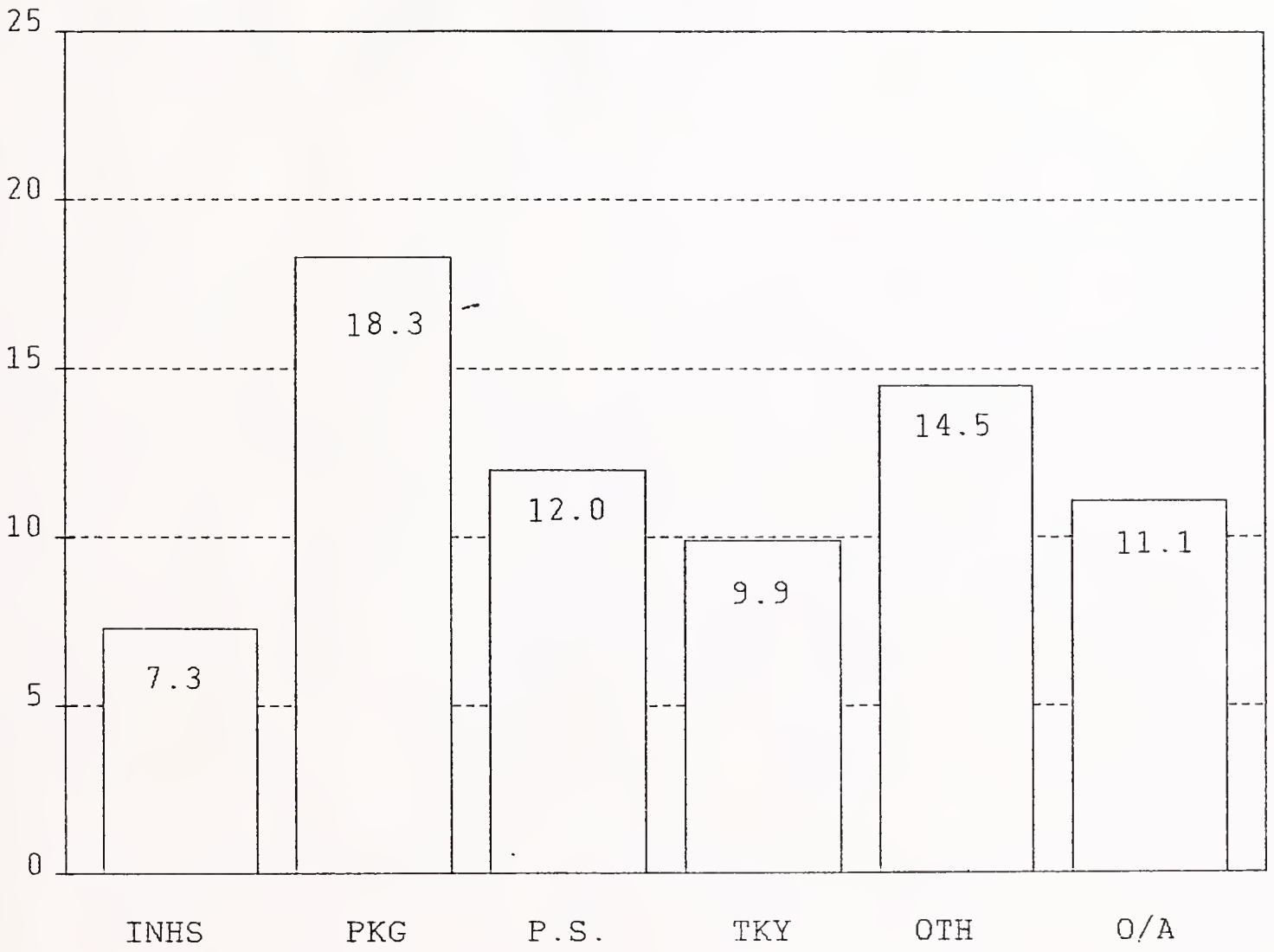
BY EXPENDITURE CATEGORY



TOTAL = $8.87 BILLION

FORECAST GROWTH RATES

BY SOFTWARE ACTIVITY



NOTE: Data are % avg. annual growth